4.13 CULTURAL, HISTORICAL, AND PALEONTOLOGICAL RESOURCES

This section identifies cultural, historical, and paleontological resources in the Project area, including PRC 421 itself, and evaluates impacts to such resources that would potentially result from the development of the proposed Project.

This document incorporates by reference the conclusions of the EMT EIR regarding cultural, historical, and paleontological resources and summarizes these conclusions where appropriate. Where this document relies upon MMs contained in the EMT EIR to address Project impacts, these are summarized to permit report reviewers to understand their relationship to the Project. This document also incorporates data from Santa Barbara County 01-ND-34 and City of Goleta 06-MND-01.

4.13.1 Environmental Setting

Archaeological Resources

The proposed Project area is located within the Barbareño Chumash cultural area, which includes evidence of human occupation dating over 9,500 years ago. Due to the rich food resources found on land and in the sea, Native American populations grew over time and their organization became more complex. The area's various sources of fresh water, including Tecolote and Winchester Canyon creeks to the west and Glen Annie Creek and the Goleta Slough to the east, were ideal locations for permanent and semi-permanent village settlements that provided abundant fish, birds, and plants for hunting and gathering.

Current models of cultural evolution along the Santa Barbara Channel recognize that over time, prehistoric peoples became increasingly dependent upon marine resources though they required greater energy to procure. Populations also became less dependent upon terrestrial resources such as large game animals due to reduced numbers of game. The need for more sophisticated subsistence technologies and group cooperation resulted in increasingly complex cultural interactions, culminating in the Chumash culture and complex social organization encountered by the Spanish in the 1500s (Arnold et al. 1997; Glassow et al. 1990; Wilcoxon et al. 1982). Climatic change during the transition from the Middle to Late Period around A.D. 1150 to 1300 may have played an important role in this process (Raab and Larson 1997), although others consider that pressures from increased population were also involved (Arnold et al. 1997).

Coastal drainages such as Tecolote Canyon, Eagle Canyon, Las Llagas Canyon, Canada de la Destiladera, Canada del Capitan, and Canada del Corral are considered to be highly sensitive zones for prehistoric archaeological resources due to a year-round source of freshwater, and an ideal location for permanent and semi-permanent settlements due to the presence of fresh water and rich food resources, i.e., the abundance of birds, foraging animals, plants that were hunted and gathered. The majority of recorded archaeological sites along the pipeline corridor are concentrated along these coastal drainages, and include long-term campsites as well as special use areas.

History

Oil exploration began in Santa Barbara County when significant discoveries of oil were successfully tapped in the Santa Maria Valley, 45 miles northwest of the current Project area, during the 1880s. During the 1890s, the first offshore oil drilling piers were built in the waters off Summerland, 17 miles east of the Project area. Other significant discoveries followed in the early 1900s at the Orcutt and Cat Canyon fields. One well in the Orcutt field struck an oil reservoir in 1904 that produced one million barrels of oil in its first 100 days of operation, causing a sensation in the rest of the country which proclaimed it to be “the greatest gusher in the world” (Santa Barbara County 2006).

World War I marked increased demand for oil that lasted through the 1920s. Even after the disastrous stock market collapse of 1929, foreign demand for U.S. oil in the 1930s spurred further oil development in Santa Barbara County. Oil production in the Orcutt Hills hit an all time high during WWI and then declined temporarily until rising domestic automobile use in the 1920s necessitated more production.

Following the peak of World War II oil demands, oil and gas production in Santa Barbara County declined. Beginning in the late 1950s, oil companies began to explore for oil in State tidelands. The first offshore drilling platform off the Santa Barbara County coast was installed in 1958 near Carpinteria. Eight other platforms and other facilities were installed in State tidelands off of Santa Barbara County between 1956 and 1966.

On January 28, 1969, Union Oil's Platform A suffered a blowout in the Dos Cuadras field installation that lasted eight days. The resulting spill of 90,000 barrels of crude oil affected over forty miles of coastline. Several environmental laws were passed at the Federal and State levels following the incident, including the NEPA and the CEQA.

PRC 421 was built and commissioned in 1928 and Piers 421-1 and 421-2 are historic structures without historic or cultural significance to the community, State or nation. However, they are the last remaining surf zone wells in California and thus may be considered historically significant.

Known historic resources near the Project site consist of a landmark site at the northeast corner of the Sandpiper Golf course, located approximately 0.52 miles away.

Paleontological Resources

The proposed Project area is situated on Pleistocene older alluvium deposits, consisting primarily of relatively unconsolidated silt, sand, and gravel. These alluvial deposits overlie the Miocene Sisquoc Formation, which is exposed in the coastal bluff northwest of the Project area and consists of silty, diatomaceous, clay shale (Dibblee 1987).

Paleontological resources are commonly found in sedimentary rock units. The boundaries of a sedimentary rock unit generally define the limits of paleontologic sensitivity in a given region. Paleontological sites are normally discovered in cliffs, ledges, steep gullies, or along wave-cut terraces where vertical rock sections are exposed. Fossil material may be exposed by a trench, ditch, or channel created by construction.

Paleontologists examine invertebrate fossil sites differently than vertebrate fossil sites. Invertebrate fossils in microscopic form such as diatoms, foraminifera, and radiolarians can be so prolific as to constitute major rock material in some areas. Invertebrate fossils are normally of marine origin and are widespread, abundant, fairly well preserved, and predictable as to fossil sites. Therefore, the same or similar fossils can be located at any number of sites throughout central California.

Vertebrate fossil sites are usually found in non-marine or continental deposits. Vertebrate fossils of continental material are usually rare, sporadic, and localized. Scattered vertebrate remains (mammoth, mastodon, horse, groundsloth, camel, and rodents) have been identified from the Pleistocene non-marine continental terrace deposits on Vandenberg Air Force Base, but these resources would not be expected in the Project site and vicinity (Gray 2003).

The invertebrate fossils that would be expected to exist within Project site geologic rock units are widespread and abundant in many areas throughout the Pacific Coastline including the Santa Barbara County (Gray 2003). The overwhelming bulk of invertebrate fossil material in these rocks is due to the deposition of sediment in marine

basins. Very seldom are vertebrate marine fossils such as whale, porpoise, seal, or sea lion found in marine rock units such as the Miocene Monterey Formation and the Pliocene Sisquoc Formations found within the PRC 421 Project area and vicinity. Therefore, the sensitivity for encountering important paleontological resources within the PRC 421 Project area and vicinity is considered low (CSLC 2006).

4.13.2 Regulatory Setting

Federal

Cultural Resources

Archaeological and architectural resources (buildings and structures) are protected through the National Historic Preservation Act (NHPA) of 1966 (16 U.S.C. 470f) and its implementing regulation, Protection of Historic Properties (36 CFR Part 800); the Archaeological and Historic Preservation Act of 1974; and the Archaeological Resources Protection Act of 1979. Section 106 of the NHPA requires federal agencies, prior to implementing an undertaking (e.g., issuing a federal permit), to consider the effects of the undertaking on historic properties and to afford the Advisory Council on Historic Preservation (ACHP) and the State Historic Preservation Officer (SHPO) a reasonable opportunity to comment on any undertaking that would adversely affect properties eligible for listing in the NRHP. Section 101(d)(6)(A) of the National Register of Historic Places (NHPA) allows properties of traditional religious and cultural importance to a tribe to be determined eligible for inclusion in the NRHP. Under the NHPA, a find is significant if it meets the NRHP listing criteria at Title 36 CFR 60.4.

The NHPA (16 U.S.C. 470 et seq., 36 CFR 800, 36 CFR 60, and 36 CFR 63) establishes the federal government policy on historic preservation and the programs, including the NRHP, through which that policy is implemented. Under the NHPA, historic properties include “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places” (16 U.S.C. 470w [5]). For purposes of the proposed Project, no federal permits are anticipated.

Paleontological Resources

There is no Federal legislation designed specifically for the management and protection of paleontological resources, although the Antiquities Act of 1906 has been used by Federal agencies to protect these resources on Federal land. Professional societies such as the Society of Vertebrate Paleontologists (SVP) and the Board of Earth Science

of the National Research Council have attempted, thus far unsuccessfully, to get Congress to approve legislation for paleontological resources. Under strong pressure from the SVP and other organizations, the U.S. House of Representatives and the Senate are considering bills that strengthen the protection of vertebrate fossils through stronger penalties and provide clear management guidelines to Federal land managers.

The SVP also stipulates that professional paleontologists take the lead in the ethical treatment of paleontological remains. Recently, the SVP membership approved Article 9, Statement of Ethics, which applies to all SVP members. One part of the statement affirms that:

> *"…the barter, sale, or purchase of scientifically significant vertebrate fossils is not condoned unless it brings them into or keeps them within a public trust. Any other trade or commerce in scientifically significant vertebrate fossils is inconsistent with the foregoing in that it deprives both the public and professionals of important specimens which are a part of our natural heritage [Article 9, Statement of Ethics]."*

Section 30244 also addresses impacts to paleontological resources. Where development would adversely impact paleontological resources, as identified by the SHPO, reasonable MMs are required.

State

Cultural Resources

The California Coastal Act of 1976 (Public Resources Code sections 30000 *et seq*.), as amended, addresses impacts to archaeological resources. Section 30116 names archaeological sites referenced in the California Coastline and Recreation Plan or designated by the SHPO as sensitive coastal resources. Section 30244 requires reasonable MMs where development would adversely impact archaeological resources as identified by the SHPO.

The State CEQA Guidelines section 15064.5 provides the basis for determining the significance of archaeological and historical resources. Their application to the proposed Project is discussed below in Section 4.6.3, Significance Criteria.

Paleontological Resources

Section 5097.5 of the California Public Resources Code prohibits excavation or removal of any "vertebrate paleontological site or historical feature, situated on public lands,

except with the express permission of the public agency having jurisdiction over such lands." Penal Code section 623 spells out regulations for the protection of caves, including their natural, cultural, and paleontological contents. It specifies that no "material" (including all or any part of any paleontological item) will be removed from any natural geologically formed cavity or cave.

Local

Cultural Resources

The Santa Barbara County Coastal Plan has several polices that address the preservation of significant cultural resources. Policy 10-1 states that all available measures must be explored to avoid development on significant historic, prehistoric, archaeological and other classes of cultural sites. Policy 10-2 states that project design shall be required to avoid impacts on archaeological or other cultural sites if possible. Policy 10-3 states that where avoidance of construction impacts is not possible, adequate mitigation shall be required in accordance with State Office of Historic Preservation and Native American Heritage Commission guidance. Policy 10-4 states that indirect activities including off-road vehicle use, unauthorized artifact collection or similar actions capable of destroying or damaging archaeological or cultural sites is prohibited. Policy 10-5 states that Native Americans shall be consulted when development is proposed that would potentially impact significant archaeological or cultural sites.

Santa Barbara County Cultural Resource Guidelines provide direction to archaeologists on what types of research topics and research questions are appropriate to determine the significance of an archaeological site.

Paleontological Resources

There are no local guidelines, including policies within the Santa Barbara County Coastal Plan, that address the preservation of or consideration for paleontological resources during the planning process.

UCSB Long Range Development Plan

The 1990 UCSB Long Range Development Plan (LRDP) was established to identify the physical development necessary to achieve the Campus' academic goals and provide a land use plan to guide the development of future facilities. The LRDP is also intended to respond to the provisions of the California Coastal Act of 1976, with respect to the preparation of Long Range Development Plans for Campuses in the Coastal Zone. The

UCSB LRDP includes guidelines addressing archeological and paleontological resources on university property. Specifically, §30244.2-7 defines policy for identifying, evaluating, and mitigating impacts on archeological and paleontological resources.

4.13.3 Significance Criteria

Cultural Resources

The State CEQA Guidelines §15064.5 defines a significant cultural resource, either prehistoric or historic, as a "historical resource." A historical resource is defined as:

A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (§5024.1, Title 14 CCR, section 4850 *et seq*.).

A resource included in a local register of historical resources, as defined in §5020.1(k) or identified as significant in an historical resource survey meeting the requirements of §5024.1(g), shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (§5024.1, Title 14 CCR, §4852) including the following:

(A) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

(B) Is associated with the lives of persons important in our past;

(C) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

(D) Has yielded, or may be likely to yield, information important in prehistory or history.

The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to §5020.1[k]), or identified in an historical resources survey (meeting the criteria in §5024.1[g]) does not preclude a lead agency from determining that the resource may be a historical resource as defined in section §5020.1(j) or 5024.1.

The State CEQA Guidelines §15064.5 provides significance threshold criteria for determining a substantial adverse change to the significance of a cultural resource:

1. Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.
2. The significance of an historical resource is materially impaired when a project:
   (A) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources;

   (B) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to §5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of §5024.1(g) of the Public Resources Code; or

   (C) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of the CEQA.

Paleontological Resources

The State CEQA Guidelines Appendix G, Environmental Checklist Form, provides a suggested significance threshold for impacts to paleontological resources:

- Would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

4.13.4 Impact Analysis and Mitigation

Cultural Resources

Impacts to cultural resources can occur by direct or indirect impacts. Direct impacts result from ground disturbances directly and indirectly caused by facility operation or maintenance. Indirect impacts result from increased access to archaeological sites, i.e., construction or facility employees participating in unauthorized artifact collecting.

Impact CR-1: Alteration of a Potentially Significant Historical Resource

Construction activities associated with the proposed Project would partially alter Pier 421-2, which is a potentially significant historical resource (Less than Significant, Class III).

Impact Discussion

The PRC 421 surf zone piers were built in 1928 as part of an area-wide expansion and intensification of oil exploration. Because the piers are quite possibly the last of their kind in California (Criterion A) and because of their association with events (Criterion C) that have made a significant contribution to the broad patterns of California's history and cultural heritage (large-scale oil extraction that, in part, literally fueled the rise of the automotive age in California), the piers appear to retain some significance under the CEQA. The proposed Project would include the repair of the caissons of Pier 421-2, thus altering the existing structure. The integrity of the piers has been reduced through heavy modification over the years. Therefore, implementation of the proposed Project would cause less than significant impacts to Pier 421-2.

Mitigation Measures

MM CR-1a. Photodocument Pier 421-2. Prior to demolition, Venoco should submit archival photos (8-x-10-inch black and white 500 ppi photos printed on acid free paper) and basic documentation of the PRC 421 piers to the Central Coastal Information Center and to the Goleta Valley Historical Society. The archival photos must be in accordance with standards set forth by the State Office of Historic Preservation.

Rationale for Mitigation

Measure MM CR-1a would provide a photographic and documentary record of a type of pier once common along the Santa Barbara County coastline. Although the PRC 421 piers have been substantially modified since their original construction, a photographic record would record details that would otherwise be lost.

Paleontological Resources

As described above, the sensitivity for encountering important paleontological resources within the Project area and vicinity is considered low. Therefore, the Project is expected to have a less than significant impact or no impact on paleontological resources associated with the proposed Project.

Impacts Related to Future Transportation Options

For the purposes of this impacts analysis, it is assumed that Line 96 and the EMT would be used to transport crude oil recovered from PRC 421 using the barge Jovalan to ship the oil to a Los Angeles or San Francisco Bay area refinery through approximately the year 2013. However, as discussed earlier in this EIR (Sections 1.2.4, 2.4.2, and 3.3.6), several options exist for future transportation of oil from the Project. These include ongoing use of the EMT through 2013, use of a pipeline to Las Flores Canyon, and trucking of oil to Venoco's ROSF Facility 35 miles to the south and subsequent transport to Los Angeles via pipeline. Transportation using the existing EMT system is not anticipated to result in impacts to historical, cultural, and paleontological resources.

The timing and exact mode of transportation of produced oil after the initial five years of Project operation are speculative at this point in time. If neither of these options is permitted or available by the cessation of operation of the EMT, production from PRC 421 would be stranded, at least temporarily, until an alternative transportation mode is approved and becomes available.

The operation of an 8.5-mile pipeline to transport oil from the EOF to the AAPL at Las Flores Canyon is not expected to create significant impacts to historical and cultural resources (see Impact CR-2 below for construction related issues). Although the timing of construction of the new pipeline is uncertain, transportation of oil via pipeline could commence as early as 2009 or 2010, resulting in 10 or more years of transportation by pipeline. Although pipelines are generally the safest method available for the transportation of crude oil, spills could potentially occur through accidental damage to the pipeline caused by natural (e.g., seismic activity, flooding) or man made causes (e.g., construction activity, valve failure). However, because the pipeline would be new, include the most recent safety technologies, and would only be in service for approximately 12 years serving PRC 421-1 production, the very remote potential for spills to occur from this pipeline would be considered less than significant (see Section 4.2, Safety).

Future transportation of oil via a combination of trucking for 35 miles from the EOF to the ROSF and via existing pipeline south to Los Angeles would incrementally increase the potential for spills. However, under the proposed Project, trucking would commence no earlier than 2013, and would involve not more than 2 trucks per day carrying 160 barrels of oil each, declining to 1 truck per day in the later years of Project operation (see Section 3.3.6, Transportation Sub-Alternative Options, Table 3-2). Based upon the projected frequency of trucking and the distances traveled, shipment of oil via trucking would not be expected to create signficant impacts to cultural and historical resources due to the unlikely potential for accidents to occur.

Similarly, the shipment of oil via existing pipeline which already transports substantial amounts of crude oil would not be expected to measureably increase the potential for impacts to cultural, historical, and paleontological resources because the failure rate for such pipelines is a function of pipeline length rather than increased throughput. The pipelines would not be modified by the addition of PRC 421 crude oil; therefore, the spill frequencies for the respective pipeline would be unchanged by the proposed Project.

Table 4.13-1. Summary of Cultural, Historical, and Paleontological Resources Impacts and Mitigation Measures

Impact	Mitigation Measures
CR-1: Alternation of a Potentially Significant Historical Resource	**CR-1a.** Photodocument Pier 421-2.

4.13.5 Impacts of Alternatives

No Project Alternative

Under this Alternative, there would be no production at PRC 421, and the facilities would be decommissioned (under a separate evaluation). The No Project Alternative would avoid the majority of impacts associated with production, transfer, and transportation of crude oil produced from PRC 421. However, until the PRC 421 is fully abandoned, potentially significant impacts could occur though collapse of portions of either of the Caissons, particularly the seaward facing wall of PRC 421-2 which has not been repaired, which would result in impacts similar to those of the proposed project (see also Impacts Geo-1, Geo-4, and S-2).

The No Project Alternative would result in the removal of both piers at PRC 421, which were built in 1928. The piers at PRC 421 are quite possibly the last of their kind in California. Because of their association with events (Criterion A) that have made a significant contribution to the broad patterns of California's history and cultural heritage,

the piers appear to retain some significance under the CEQA. Therefore, implementation of this Alternative, like the proposed Project, would cause potentially significant impacts to Pier 421-2 and MM CR-1a would apply. The impacts associated with decommissioning of PRC 421 would be analyzed in a separate document.

No Project Alternative with Pressure Testing

This Alternative would require the installation of temporary facilities and equipment at PRC 421 in order to allow for temporary oil production to permit flow pressure testing of the existing 421-2 well and the associated reservoir. After a 6 to 12-month testing period to determine how the permanent closure of PRC 421 would affect pressure in the reservoir, recommendations would be provided on the ultimate disposition of the surf-zone facilities. Once pressure testing is completed, CSLC would make a decision regarding the disposition of Project facilities based on the results of the testing. This Alternative would not involve a substantial repair or demolition of either pier associated with PRC 421; therefore, the No Project Alternative with Pressure Testing would be less than significant with regard to cultural historical, and paleontological resources.

Onshore Oil Separation at the EOF

Under this Alternative, oil produced from PRC 421 would undergo separation of oil from water and gas at the EOF instead of at Pier 421-2. The EOF is already equipped with the oil-water separation and treatment and discharge of produced water systems necessary to treat oil produced from Pier 421-2. Although existing EOF throughput levels would increase, no substantial physical modifications of existing systems at the EOF would be necessary, beyond the control system improvements envisioned by the proposed Project. The increased throughput levels are projected to remain below the current permitted level.

Under this Alternative, Pier 421-1 would not be required for water re-injection and the decommissioning of Pier 421-1 would be accelerated. The accelerated decommissioning would require submittal of a decommissioning plan for Pier 421-1 to the CSLC and the city of Goleta within approximately 6 months of approval of this alternative. The decommissioning plan would be subject to further environmental review. The potential impacts associated with decommissioning of Pier 421-1 would be analyzed in a separate document. Similar to the proposed Project, this Alternative would alter Pier 421-2 through the required repairs to the pier, which was originally constructed in 1928. The piers at PRC 421 are quite possibly the last of their kind in California. Because of their association with events (Criterion A) that have made a

significant contribution to the broad patterns of California's history and cultural heritage, the piers appear to retain some significance under the CEQA. Therefore, implementation of this Alternative, like the proposed Project, would cause potentially significant impacts to Piers 421-1 and 421-2 and MM CR-1a would apply.

Recommissioning Using Historic Production Methods

Under this Alternative, production would resume at PRC 421 essentially in its historic configuration at the time prior to the wells being shut-in in 1994 while incorporating new technologies to comply with current industrial and environmental standards. Similar to the proposed Project, this Alternative would alter Pier 421-2, which was built in 1928. The piers at PRC 421 are quite possibly the last of their kind in California. Because of their association with events (Criterion A) that have made a significant contribution to the broad patterns of California's history and cultural heritage, the piers appear to retain some significance under the CEQA. Therefore, implementation of this Alternative, like the proposed Project, would cause potentially significant impacts to Pier 421-2 and MM CR-1a would apply.

Re-injection at Platform Holly

Under this Alternative, production would resume at PRC 421 as described under the proposed Project; however, water would be sent to Platform Holly, via the EOF, for re-injection and Well 421-1 would be decommissioned immediately instead of initially using Well 421-1 and switching to re-injection at Platform Holly later in the Project, as described in the Project description. Similar to the proposed Project, this Alternative would alter Pier 421-2, which was built in 1928. The piers at PRC 421 are quite possibly the last of their kind in California. Because of their association with events (Criterion A) that have made a significant contribution to the broad patterns of California's history and cultural heritage, the piers appear to retain some significance under the CEQA. Therefore, implementation of this Alternative, like the proposed Project, would cause potentially significant impacts to Pier 421-2 and MM CR-1a would apply.

Transportation Sub-Alternative Options

Pipeline Sub-Alternative

Under this sub-alternative option, production would resume at PRC 421 as described for the proposed Project; however, recovered crude oil would not be delivered to or transported by Barge Jovalan. This method of crude oil transportation would involve the

construction of an onshore 6-inch-diameter crude-oil pipeline from the EOF to the AAPL at Las Flores Canyon. Impacts to cultural resources associated with this Alternative could result from grading, cut-and-fill excavation, clearing/removal of trees, brush, and boulders, trenching, and excavation of bore pits and reception pits associated with construction of the pipeline. Although much of the proposed pipeline corridor has been subject to past intensive surveys and large portions have also been subject to disturbance from past road building activities, the potential exists to encounter archaeological remains. In particular, the potential exists to encounter previously unknown sites or to disturb sites where precise site boundaries have either not been accurately delineated. This includes the potential to encounter human remains.

Impact CR-2: Disturbance to Cultural Resources from Pipeline Construction

Trenching and grading associated with pipeline construction would create potentially significant impacts through possible disturbance of 8 known sites within the pipeline corridor and may impact unknown sites or portions of the 45 additional known sites within ¼ mile of the pipeline corridor (Class II).

Impact Discussion

A record search of the California Archaeological Inventory at the Central Coast Information Center housed at the Department of Anthropology, UCSB was performed July 28, 2005, to identify recorded archaeological sites within ¼ mile of the alternative pipeline corridor (a Confidential Appendix has been prepared for submittal to the appropriate regulatory agencies as part of the EMT EIR). Forty-five recorded prehistoric and historic archaeological sites are located within ¼ mile of the pipeline. Eight of the recorded archaeological sites are located in the pipeline corridor.

For most of the route, the pipeline would be within or adjacent to existing roadways, an area that generally has been previously disturbed. Although the integrity of the soil along much of this corridor may have been compromised by modern ground disturbances, pockets of intact cultural remains may exist within the proposed construction right-of-way. This is especially true in the vicinity of coastal drainages which are particularly sensitive for cultural resources. Further, it is uncertain if all of the eight known sites within the proposed pipeline corridor have been fully delineated. If such sites have not been fully delineated, pipeline construction may encounter cultural remains outside of known site boundaries. If intact cultural remains are located within the corridor and are encountered during construction, a potentially significant impact (Class II) would result.

Mitigation Measure

The following general mitigation measures would apply to the pipeline transportation alternative. These measure would need to be more fully developed and more intensive archaeological exploration and analysis undertaken as part of the project specific EIR on this pipeline.

MM CR-2a. Record Search and Surveys and Pipeline Alignment Modification. Venoco shall retain a qualified cultural resource specialist to review the existing record search to determine if intact cultural resources or un-surveyed undisturbed areas could be impacted by pipeline construction. Should known sites, or undisturbed un-surveyed areas remain within the area of potential impact, Venoco shall fund a detailed Phase I exploration of such area. Record searches, surveys and/or Phase I exploration of potentially significant cultural resource areas shall take place during the permitting process, prior to submittal of building plans and the pipeline design adjusted to avoid disturbance to known significant cultural resources. Further, if significant remains are encountered during construction, construction shall be halted and pipelines shall be re-routed to avoid known cultural resources or a program of further exploration, investigation and, if required, salvage (Phase II and Phase III) shall be undertaken prior to any construction within such areas. All such archaeological exploration shall include the use of Native American monitors as appropriate.

Rationale for Mitigation

A record search of the pipeline construction area would indicate the potential for the existence of unknown archeological sites. Surveys and/or Phase I exploration of any sites within the area of potential impact will allow for evaluation of the sites prior to commencement of construction activities.

Truck Sub-Alternative

Under this alternative, oil would be loaded and unloaded using existing facilities located within existing developed/ previously disturbed areas. Trucks from the EOF to the Venoco Carpinteria Facility would travel approximately 35 miles each way. The maximum number of trucking roundtrips is 5 (see Section 3 Project Alternatives, Table 3-2) during the peak production year. Impacts to cultural resources from trucking would only occur in the event of an accident that resulted in a spill in an archaeologically sensitive area. The potential for a spill related accident to occur is exceedingly low (as discussed in Section 4.2, Safety). Therefore, there are no anticipated impacts to cultural and historical resources from the use of trucking as a transportation alternative.

Potential impacts to paleontological resources related to potential spills during oil transport could be adverse, but less than significant, as potential spill clean up activities would occur in similar marine, sedimentary geologic rock units along the coastal terrace south of Highway 101. These formations would also have only a remote potential to include significant vertebrate fossil remains. In addition, the potential for such an accident is exceedingly low (as discussed in Section 4.2, Safety).

4.13.6 Cumulative Projects Impact Analysis

Historic archaeological sites are non-renewable resources that have been destroyed at an alarming rate State-wide and locally. Thus, the assessment of potential cumulative impacts on cultural resources within the proposed Project area considers these past activities resulting in loss of historic sites, along with other probable future projects in the vicinity.

The proposed Project would result in impacts to two historic structures within the proposed Project area. The implementation of proposed MM CR-1a would reduce this contribution to cumulative impacts to cultural resources below significance criteria.

The proposed Project would not have the potential to substantially contribute to cumulative impacts on paleontological resources.